#### Small Business Innovation Research/Small Business Tech Transfer

# Plug and Play Realtime Diagnosis for Ground Processing System Integration, Phase I



Completed Technology Project (2013 - 2013)

### **Project Introduction**

NASA's "Ground Systems Development and Operations Program" is moving towards transforming parts of the Kennedy Space Center from a historically government-only launch complex to a spaceport bustling with activities involving government and commercial vehicles alike. The success of this transformation drive largely depends on achieving the ability to process multiple types of vehicles, within a rather short time and in an economic way. QSI proposes developing a COTS (Commercial off-the-Shelf) Software to facilitate 'Plug and Play Real-time Diagnosis for Ground Processing System Integration' to support achieving the objective of the program. QSI will add capabilities to their TEAMS (Testability Engineering and Maintenance System) toolset such that it will enable NASA to perform diagnostic analysis for various vehicular and ground systems without the requirement to build the analytic models and software tools from ground-up. Here, NASA is only required to build the diagnostic models (required for system integration, testing, assembly, maintenance/troubleshooting and pre-launch checkout) of the systems. Upon building, those can be used in a plug-and-play fashion through the analytic/diagnostic environment of TEAMS in conjunction with monitored data and test results from the vehicular and ground systems for obtaining diagnostic, prognostic, time to alarm, time to maintenance, etc. decisions.

#### **Primary U.S. Work Locations and Key Partners**





Plug and Play Realtime Diagnosis for Ground Processing System Integration, Phase I

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Organizations Performing Work	Role	Туре	Location
Qualtech Systems, Inc.	Lead Organization	Industry Minority-Owned Business, Small Disadvantaged Business (SDB)	Rocky Hill, Connecticut
Ames Research Center(ARC)	Supporting Organization	NASA Center	Moffett Field, California

Primary U.S. Work Locations	
California	Connecticut

### **Project Transitions**



May 2013: Project Start



November 2013: Closed out

**Closeout Summary:** Plug and Play Realtime Diagnosis for Ground Processing S ystem Integration, Phase I Project Image

#### **Closeout Documentation:**

• Final Summary Chart Image(https://techport.nasa.gov/file/138410)

## Organizational Responsibility

# Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

#### **Lead Organization:**

Qualtech Systems, Inc.

#### **Responsible Program:**

Small Business Innovation Research/Small Business Tech Transfer

### **Project Management**

#### **Program Director:**

Jason L Kessler

#### **Program Manager:**

Carlos Torrez

#### **Principal Investigator:**

Sudipto Ghoshal

#### **Co-Investigator:**

Sudipto Ghoshal



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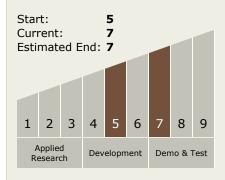
#### **Images**



#### **Briefing Chart Image**

Plug and Play Realtime Diagnosis for Ground Processing System Integration, Phase I (https://techport.nasa.gov/imag e/135574)

# Technology Maturity (TRL)



### **Technology Areas**

#### **Primary:**

- TX13 Ground, Test, and Surface Systems
  - ☐ TX13.1 Infrastructure Optimization
    - ☐ TX13.1.2

      Launch/Test/Ops Site

      Management

## **Target Destinations**

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System

